

From: )  
INTERNATIONAL SEARCHING AUTHORITY

To:

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**PCT**

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) - 4 AUG 2004

Applicant's or agent's file reference  
FP2293

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
**PCT/SG2004/000202**

International filing date (day/month/year)  
6 July 2004

Priority date (day/month/year)  
7 July 2003

International Patent Classification (IPC) or both national classification and IPC  
Int. Cl. <sup>7</sup> **A61B 6/03; G06F 17/00, G06F 19/00**

Applicant

**AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH et al**

1. This opinion contains indications relating to the following items:

- |                                     |              |  |
|-------------------------------------|--------------|--|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the opinion   |
| <input type="checkbox"/>            | Box No. II   | Priority   |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability   |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention   |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited  |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application   |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application  |

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the IPEA/AU  
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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

**PCT/SG2004/000202**

**Box No. I**

**Basis of the opinion**

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/SG2004/000202

**Box No. V** Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 1 - 17	YES
	Claims	NO
Inventive step (IS)	Claims 1 - 17	YES
	Claims	NO
Industrial applicability (IA)	Claims 1 - 17	YES
	Claims	NO

2. Citations and explanations:

**NOVELTY (N) & INVENTIVE STEP (IS)**

**Claims 1 - 17**

The present invention relates to a method and an apparatus for extracting third ventricle information of the brain from MR images. The invention is characterised in determining a third ventricle midline and establishing the orientation of that midline. Furthermore, the invention is particularly characterised in calculating the third ventricle plane from the midlines having an orientation with the predetermined angle from the peak orientation.

The prior art documents (non-patent literature & patent documents) relate to fully automatic segmentation of brain structures using MR imaging. However, none of the prior art documents explicitly discloses or even suggests, either on their own or in any obvious combination of those documents, the precise method of extracting third ventricle information of the brain from MR images.

Consequently, the invention defined in the present claims is novel and possesses an inventive step in light of this cited prior art.

**INDUSTRIAL APPLICABILITY (IA)**

**Claims 1 - 17**

The invention defined in the present claims finds application in medical imaging, and in particular neuro-imaging and neuro-informatics, neurosurgery, neuroradiology and brain research.